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FILE 'USPAT' ENTERED AT 13:54:11 ON 31 OCT 1997

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  *              W E L C O M E   T O   T H E                  *
  *         U. S.   P A T E N T   T E X T   F I L E           *
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=> s bea(p)zeolite?
          217 BEA
        19038 ZEOLITE?
L1          14 BEA(P)ZEOLITE?

=> d l1 1-14 ti, in, cit, ab
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US PAT NO: 5,679,868 :IMAGE AVAILABLE: L1: 1 of 14
TITLE: Preparation of glutaric dialdehyde
INVENTOR: Heinz-Josef Kneuper, Mannheim, Federal Republic of Germany
Rainer Becker, Bad Durkheim, Federal Republic of Germany
Eugen Gehrer, Ludwigshafen, Federal Republic of Germany
Juergen Schossig, Fussgonheim, Federal Republic of Germany
Andreas Henne, Neustadt, Federal Republic of Germany

1. 5,679,868, Oct. 21, 1997, Preparation of glutaric dialdehyde; Heinz-Josef Kneuper, et al., 568/483 :IMAGE AVAILABLE:

ABSTRACT:
A process for the preparation of glutaric dialdehyde by the reaction of alkoxy dihydropyrans of the general formula I ##STR1## in which R stands for C.sub.1 to C.sub.20 alkoxy, with water at temperatures ranging from 0.degree. to 150.degree. C. and pressures of from 0.01 to 50 bar in the presence of a which microporous, crystalline aluminum silicate catalyst, e.g. a beta-type zeolite or pentasil catalyst having a pore diameter greater than 5.4 .ANG..

US PAT NO: 5,663,480 :IMAGE AVAILABLE: L1: 2 of 14
TITLE: Synthesis of aromatic carbonates by transesterification using a catalyst comprising a microporous material and a group IV metal
INVENTOR: Hideaki Tsuneki, Tokyo, Japan
Masaru Kirishiki, Osaka, Japan
Kenichi Watanabe, Osaka, Japan
Yoshiyuki Onda, Tokyo, Japan

2. 5,663,480, Sep. 2, 1997, Synthesis of aromatic carbonates by transesterification using a catalyst comprising a microporous material and a group IV metal; Hideaki Tsuneki, et al., 558/270, 271, 274 :IMAGE AVAILABLE:

ABSTRACT:
A catalyst for producing an aryl ester of a carbonic or carboxylic acid is disclosed, which includes a microporous material containing a metal element belonging to group IV. This catalyst can be used as a heterogeneous catalyst to produce the aryl ester in high yield with industrial advantages. In order to produce the aryl ester using the catalyst, a carbonate or an aliphatic carboxylate is transesterified with an aromatic hydroxy compound, or an aryl carboxylate is transesterified with a carbonate, or an alkyl aryl carbonate is disproportionated by transesterification.

US PAT NO: 5,648,[redacted] :IMAGE AVAILABLE: [redacted]: 3 of 14
TITLE: Method for producing a polyoxyalkylene glycol and novel metallo-aluminosilicate
INVENTOR: Masakatsu Hatano, Yokohama, Japan
Akio Nakanishi, Yokohama, Japan
Yoshio Kabata, Yokohama, Japan
Masayuki Shirado, Yokkaichi, Japan
Hiroshi Takeo, Yokkaichi, Japan
Mitsuharu Kobayashi, Yokohama, Japan

3. 5,648,558, Jul. 15, 1997, Method for producing a polyoxyalkylene glycol and novel metallo-aluminosilicate; Masakatsu Hatano, et al., 568/618; 528/361; 560/240 :IMAGE AVAILABLE:

ABSTRACT:
A method for producing a polyoxyalkylene glycol by ring opening polymerization of a cyclic ether, wherein a zeolite (other than ZSM-5, ZSM-11 and Nu-5) is used as a catalyst.

US PAT NO: 5,614,454 :IMAGE AVAILABLE: L1: 4 of 14
TITLE: Stable, high-yield reforming catalyst
INVENTOR: Leonid B. Galperin, Chicago, IL
Paula L. Bogdan, Mount Prospect, IL
Edwin P. Boldingh, Arlington heights, IL

4. 5,614,454, Mar. 25, 1997, Stable, high-yield reforming catalyst; Leonid B. Galperin, et al., 502/66; 208/138; 502/74 :IMAGE AVAILABLE:

ABSTRACT:
A reforming process, selective for the dehydrocyclization of paraffins to aromatics, is effected using a catalyst containing multiple Group VIII (8-10) noble metals having different gradients within the catalyst and a nonacidic large-pore molecular sieve. The use of this bed of catalyst results in greater selectivity of conversion of paraffins to aromatics and improved catalyst stability, particularly in the presence of small amounts of sulfur.

US PAT NO: 5,565,605 :IMAGE AVAILABLE: L1: 5 of 14
TITLE: Synthesis of aryl carboxylates by transesterification using a heterogeneous microporous catalyst containing a group IV metal
INVENTOR: Hideaki Tsuneki, Tokyo, Japan
Masaru Kirishiki, Suita, Japan
Kenichi Watanabe, Suita, Japan
Yoshiyuki Onda, Tokyo, Japan

5. 5,565,605, Oct. 15, 1996, Synthesis of aryl carboxylates by transesterification using a heterogeneous microporous catalyst containing a group IV metal; Hideaki Tsuneki, et al., 560/109, 130 :IMAGE AVAILABLE:

ABSTRACT:
A catalyst for producing an aryl ester, which includes a microporous material containing a metal element belonging to group IV, is described. This catalyst is insoluble and can be used as a heterogeneous catalyst, to produce an aryl ester in high yield with industrial advantages. In order to produce an aryl ester using the catalyst, a carbonate or an aliphatic carboxylate is transesterified with an aromatic hydroxy compound, or an aryl carboxylate is transesterified with a carbonate, or an alkyl aryl carbonate is disproportionated by transesterification.

US PAT NO: 5,565,090 :IMAGE AVAILABLE: L1: 6 of 14
TITLE: Modified riser-reactor reforming process
INVENTOR: Christopher D. Gosling, Roselle, IL
Scott Y. Zhang, Carol Stream, IL

Paula L. Bogdan, Mount Prospect, IL

6. 5,565,090, Oct. 15, 1996, Modified riser-reactor reforming process; Christopher D. Gosling, et al., 208/134, 64, 65, 137, 138, 139, 140, 141, 146; 585/403, 412, 955 :IMAGE AVAILABLE:

ABSTRACT:
A catalytic reforming process uses a riser reactor with multiple catalyst injection points to obtain high aromatics yields from a naphtha feedstock. Product from the riser reactor typically is discharged into a fluidized-reforming reactor, in which the reforming reaction is completed and catalyst is separated from hydrogen and hydrocarbons. Hydrocarbons from the reactor are separated to recover an aromatized product. Catalyst is regenerated to remove coke and reduced for reuse in the reforming process.

US PAT NO: 5,502,259 :IMAGE AVAILABLE: L1: 7 of 14
TITLE: Method for purification of phenol
INVENTOR: Vladimir M. Zakoshansky, St. Petersburg, RUX
Irina I. Vasilieva, St. Petersburg, RUX
Andrei K. Griaznov, St. Petersburg, RUX

7. 5,502,259, Mar. 26, 1996, Method for purification of phenol; Vladimir M. Zakoshansky, et al., 568/754, 749, 768, 798 :IMAGE AVAILABLE:

ABSTRACT:
The invention relates to a method for purification of phenol and specifically to a method for purification of phenol produced within the process of joint phenol and acetone production by cumene method.
The aim of the invention is to develop a catalyst which has high activity for phenol purification from organic mico-impurities with regeneration of the catalyst and which has high mechanical strength and stability with long catalyst life.
This result is obtained by phenol purification using a heterogeneous zeolite catalyst. The acidity of the catalyst measured by butane cracking (K.sub.A) is more than 10.
It is preferable to use **zeolites** which are designated according to the classification of the International **Zeolite** Association by indices FAU (**zeolites** X, Y), MFI (for example, ZSM-5), MOR (mordenite), MAZ (omega), **BEA** (beta), FER (ferrierite) and others. These **zeolites** can be used with binders (aluminum oxide, silica gel, aluminosilicates or aluminophosphates) and without them. It is preferable to use **zeolite** of the Y type with an aluminosilicate binder and a the value of K.sub.A =50-80 cm.sup.3 /min*g and Si/Al ratio more than 3. The concentration of sodium, potassium and other alkali agents on the basis of their oxides does not exceed 2 wt %, preferably not more than 0.3 wt %. It is preferable to use **zeolites** with medium and large pores. Size of **zeolites** pores should be within the range 4 .ANG. in diameter and more. The most preferable **zeolites** are with large pores (>6 .ANG. in diameter) such as Y and mordenite.

US PAT NO: 5,472,593 :IMAGE AVAILABLE: L1: 8 of 14
TITLE: BTX from naphtha without extraction
INVENTOR: Christopher D. Gosling, Roselle, IL
Robert S. Haizmann, Rolling Meadows, IL

8. 5,472,593, Dec. 5, 1995, BTX from naphtha without extraction; Christopher D. Gosling, et al., 208/65, 66, 138; 585/322, 477, 481, 482 :IMAGE AVAILABLE:

ABSTRACT:
A hydrocarbon feedstock is catalytically reformed in a sequence comprising a reforming zone containing a catalyst comprising a platinum-group metal and a nonacidic L-zeolite and an aromatics-isomerization zone containing a catalyst comprising a

platinum-group metal, a metal attenuator and a refractory inorganic oxide. The process combination features high selectivity in producing a high-purity BTX product from naphtha.

US PAT NO: 5,464,800 :IMAGE AVAILABLE: L1: 9 of 14
TITLE: Stable, high-yield reforming catalyst
INVENTOR: Leonid B. Galperin, Chicago, IL
Paula L. Bogdan, Mount Prospect, IL
Edwin P. Boldingh, Arlington Heights, IL

9. 5,464,800, Nov. 7, 1995, Stable, high-yield reforming catalyst; Leonid B. Galperin, et al., 502/66; 208/138; 502/74 :IMAGE AVAILABLE:

ABSTRACT:
A reforming process, selective for the dehydrocyclization of paraffins to aromatics, is effected using a bed of catalyst particles containing multiple Group VIII (8-10) noble metals having different gradients within the catalyst particles and a nonacidic large-pore molecular sieve. The use of this bed of catalyst particles results in greater selectivity of conversion of paraffins to aromatics and improved catalyst stability, particularly in the presence of small amounts of sulfur.

US PAT NO: 5,461,016 :IMAGE AVAILABLE: L1: 10 of 14
TITLE: High-stability catalyst containing a platinum group metal and nickel on zeolite L and a binder
INVENTOR: Steven A. Bradley, Arlington Heights, IL
Leonid B. Galperin, Chicago, IL

10. 5,461,016, Oct. 24, 1995, High-stability catalyst containing a platinum group metal and nickel on zeolite L and a binder; Steven A. Bradley, et al., 502/66, 74 :IMAGE AVAILABLE:

ABSTRACT:
Reforming selective for the dehydrocyclization of paraffins to aromatics, is effected using a catalyst containing a platinum-group metal, a nonacidic large-pore molecular sieve, and a metal modifier which is positioned on the catalyst to be extrinsic to the pores of the molecular sieve. The use of this catalyst results in greater selectivity converting paraffins to aromatics and improved catalyst stability particularly when processing feedstocks containing small amounts of sulfur compounds.

US PAT NO: 5,417,742 :IMAGE AVAILABLE: L1: 11 of 14
TITLE: Removal of perfluorocarbons from gas streams
INVENTOR: Satish S. Tamhankar, Scotch Plains, NJ
Ramakrishnan Ramachandran, Allendale, NJ
Martin Bulow, Basking Ridge, NJ
Theodore R. Galica, Glen Gardner, NJ

11. 5,417,742, May 23, 1995, Removal of perfluorocarbons from gas streams; Satish S. Tamhankar, et al., 95/96, 99, 131, 143, 902, 903 :IMAGE AVAILABLE:

ABSTRACT:
Perfluorocarbons are recovered from gas streams by subjecting the gas stream to an adsorption process in a bed of one or more energetically homogeneous adsorbents such as silicon-rich adsorbents of the FAU structure, silicon-rich adsorbents of the BEA structure, silicon-rich adsorbents of the MOR structure. The adsorption process is preferably pressure swing adsorption or temperature swing adsorption.

US PAT NO: 5,384,038 :IMAGE AVAILABLE: L1: 12 of 14
TITLE: Stable, high-yield reforming catalyst
INVENTOR: Leonid B. Galperin, Chicago, IL

12. 5,384,038, Jan. 24, 1995, Stable, high-yield reforming catalyst;

Leonid B. Galperin, 208/138; 585/419, 482 :IMAGE AVAILABLE:

ABSTRACT:
A reforming process, selective for the dehydrocyclization of paraffins to aromatics, is effected using a bed of catalyst particles containing multiple Group VIII (8-10) noble metals having different gradients within the catalyst particles and a nonacidic large-pore molecular sieve. The use of this bed of catalyst particles results in greater selectivity of conversion of paraffins to aromatics and improved catalyst stability, particularly in the presence of small amounts of sulfur.

US PAT NO: 5,366,617 :IMAGE AVAILABLE: L1: 13 of 14
TITLE: Selective catalytic reforming with high-stability catalyst
INVENTOR: Steven A. Bradley, Arlington Heights, IL
Leonid B. Galperin, Chicago, IL

13. 5,366,617, Nov. 22, 1994, Selective catalytic reforming with high-stability catalyst; Steven A. Bradley, et al., 208/137, 138 :IMAGE AVAILABLE:

ABSTRACT:
A reforming process, selective for the dehydrocyclization of paraffins to aromatics, is effected using a catalyst containing a platinum-group metal, a nonacidic large-pore molecular sieve, and a metal modifier which is positioned on the catalyst to be extrinsic to the pores of the molecular sieve. The use of this catalyst results in greater selectivity converting paraffins to aromatics and improved catalyst stability particularly when processing feedstocks containing small amounts of sulfur compounds.

US PAT NO: 5,314,854 :IMAGE AVAILABLE: L1: 14 of 14
TITLE: Stable, high-yield reforming catalyst
INVENTOR: Leonid B. Galperin, Chicago, IL

14. 5,314,854, May 24, 1994, Stable, high-yield reforming catalyst; Leonid B. Galperin, 502/66, 74 :IMAGE AVAILABLE:

ABSTRACT:
A reforming process, selective for the dehydrocyclization of paraffins to aromatics, is effected using a bed of catalyst particles containing multiple Group VIII (8-10) noble metals having different gradients within the catalyst particles and a nonacidic large-pore molecular sieve. The use of this bed of catalyst particles results in greater selectivity of conversion of paraffins to aromatics and improved catalyst stability, particularly in the presence of small amounts of sulfur.

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FILE 'JPO' ENTERED AT 13:55:52 ON 31 OCT 1997

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*                        G P I                                *
*     J A P A N E S E   P A T E N T   A B S T R A C T S       *
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FILE 'EPO' ENTERED AT 13:55:52 ON 31 OCT 1997

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*                        G P I                                *
*     E U R O P E A N   P A T E N T   A B S T R A C T S       *
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FILE 'USPAT' ENTERED AT 13:55:52 ON 31 OCT 1997

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  *              W E L C O M E   T O   T H E                      *
  *        U. S.   P A T E N T   T E X T   F I L E                *
  *                                                               *
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FILE 'USOCR' ENTERED AT 13:55:52 ON 31 OCT 1997

=> s l1
FILE 'JPO'
           16 BEA
         5751 ZEOLITE?
L2          2 BEA(P)ZEOLITE?

FILE 'EPO'
            6 BEA
         5101 ZEOLITE?
L3          1 BEA(P)ZEOLITE?

FILE 'USPAT'
          217 BEA
        19038 ZEOLITE?
L4         14 BEA(P)ZEOLITE?

FILE 'USOCR'
          474 BEA
          978 ZEOLITE?
L5          0 BEA(P)ZEOLITE?

TOTAL FOR ALL FILES
L6         17 L1

=> d l2 1-2 ti, in, cit, ab

JP407185326A                                              L2: 1 of 2

TITLE:     ADSORBENT FOR PURIFYING HYDROCARBONS IN EXHAUST GAS

INVENTOR:    KATSUNO, TAKASHI
             KIMURA, TAKUMA
             IKEDA, TAKUYA
             KAMIKUBO, MASANORI
             MASUDA, GOJI

1.  JP407185326A , Jul. 25, 1995, ADSORBENT FOR PURIFYING HYDROCARBONS IN
EXHAUST GAS; KATSUNO, TAKASHI, et al.,
INT-CL:      B01J20/18; B01D53/34; B01D53/72; B01J20/04


ABSTRACT:

 PURPOSE: To provide an adsorbent for purifying hydrocarbons in an
exhaust gas, which is more improved in the performance of the adsorbent
constituted of a molecular sieve carrying silver.

 CONSTITUTION: The adsorbent is constituted so as to provide one or more
kind of metal among silver, alkali metal and alkaline earth metal and the
molecular sieve. As the molecular sieve, a crystalline aluminosilicate is
exemplified and one isomorphically substituted by a metal (Co, Fe, Cu,
Mn, Ni or the like) can be also used. The crystalline aluminosilicate
includes MFI type, FAU type, FER type, BEA type, MOR type, ERI type,
LTL type and CHA type zeolite or the like as a concrete example.

 COPYRIGHT: (C)1995,JPO

JP407185325A                                              L2: 2 of 2
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TITLE: HYDROCARBON ADSORBENT

INVENTOR: KATSUNO, TAKASHI
KIMURA, TAKUMA
KAMIKUBO, MASANORI
IKEDA, TAKUYA
MASUDA, GOJI

2. JP407185325A , Jul. 25, 1995, HYDROCARBON ADSORBENT; KATSUNO, TAKASHI, et al.,
INT-CL: B01J20/18; B01D53/72

ABSTRACT:

PURPOSE: To produce an adsorbent for purifying hydrocarbons having high adsorptivity for hydrocarbons, high in desorbing temp. of the hydrocarbons and having heat resistance by constituting the adsorbent of silver, at least one element selected from a group consisting of phosphorus, antimony, bismuth and boron, and a molecular sieves.

CONSTITUTION: This adsorbent is composed of the silver, at least one kind of elements selected from the group consisting of the phosphorus, antimony, bismuth and boron and the molecular sieves. In this case, a silicate of crystalline aluminum, a phosphate of the crystalline aluminum, the phosphate or crystalline metallosilicate of a crystalline silicoaluminum are used as the molecular sieves. Moreover, at least one kind selected from a group consisting of MFI, **BEA**, FAU, FER, ERI and CHA type **zeolite** is used as the silicate of crystalline aluminum.

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=> d l3 ti, in, cit, ab

US005502259A L3: 1 of 1

TITLE: Method for purification of phenol

INVENTOR: ZAKOSHANSKY, VLADIMIR M (RU)
VASILIEVA, IRINA I (RU)
GRIAZNOV, ANDREI K (RU)

1. US005502259A , Mar. 26, 1996, Method for purification of phenol; ZAKOSHANSKY, VLADIMIR M (RU), et al.,
INT-CL: :6: C07C37/68; :6: C07C37/70

ABSTRACT:

The invention relates to a method for purification of phenol and specifically to a method for purification of phenol produced within the process of joint phenol and acetone production by cumene method. The aim of the invention is to develop a catalyst which has high activity for phenol purification from organic mico-impurities with regeneration of the catalyst and which has high mechanical strength and stability with long catalyst life. This result is obtained by phenol purification using a heterogeneous **zeolite** catalyst. The acidity of the catalyst measured by butane cracking (KA) is more than 10. It is preferable to use **zeolites** which are designated according to the classification of the International **Zeolite** Association by indices FAU (**zeolites** X, Y), MFI (for example, ZSM-5), MOR (mordenite), MAZ (omega), **BEA** (beta), FER (ferrierite) and others. These **zeolites** can be used with binders (aluminum oxide, silica gel, aluminosilicates or aluminophosphates) and without them. It is preferable to use **zeolite** of the Y type with an

aluminosilicate binder and a the value of KA=50-80 cm3/min*g and Si/Al ratio more than 3. The concentration of sodium, potassium and other alkali agents on the basis of their oxides does not exceed 2 wt %, preferably not more than 0.3 wt %. It is preferable to use **zeolites** with medium and large pores. Size of **zeolites** pores should be within the range 4 ANGSTROM in diameter and more. The most preferable **zeolites** are with large pores (>6 ANGSTROM in diameter) such as Y and mordenite.

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     (FILE 'USPAT' ENTERED AT 13:54:11 ON 31 OCT 1997)
L1            14 S BEA(P)ZEOLITE?

     FILE 'JPO, EPO, USPAT, USOCR' ENTERED AT 13:55:52 ON 31 OCT 1997
     FILE 'JPO'
L2             2 S L1
     FILE 'EPO'
L3             1 S L1
     FILE 'USPAT'
L4            14 S L1
     FILE 'USOCR'
L5             0 S L1
     TOTAL FOR ALL FILES
L6            17 S L1
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